Amendments to the Specification:

Please replace the paragraphs [0173]-[0175], with the following rewritten paragraphs:

[0173] Conduits 126 can also be made small enough to fit within the lumen of the elastically curved needle 101. A conduit 126 can be a small tube 125 with a longitudinal channel 104, as shown in FIG. 35, for transporting nutrients, oxygen and waste dissolved in fluid. The tubular conduit 126 with a lumen 104 can be braided or weaved with filaments, **forming a porous material** as shown in FIG. 36. **Filament is a fine thread, fiber or thread-like structure.** The fluid can be transported through the lumen 104 as well as permeated through the braided filaments of the tube 125. The tubular conduit 126 can also be molded or extruded ~~with~~**, forming a** porous or spongy material, as shown in FIG. 37, to transport nutrients, oxygen and waste dissolved in fluid through the lumen 104 as well as through the pores.

[0174] Nutrients, oxygen, lactate, metabolites, carbon dioxide and waste can also be transported in fluid through capillary action of **the conduit, made with a porous or channeled material, into tubular,** multi-filaments or braided filaments 122, as shown in FIG. 38. ~~A~~ **The** conduit 126 may not require the longitudinal lumen 104 as mentioned. A strand of braided filaments 122 can be a suture with channels formed among weavings of the filaments, capable of transporting fluid with nutrients, gases and waste. The braided filaments 122 can be coated with a stiffening agent, such as starch, to aid deployment using the plunger 109. Similar to the channels formed by the braided filaments 122, a conduit 126 made as a spongy thread 124, as shown in FIG. 39, can also transport fluid with nutrients, gases and wastes through the pores and channels formed within the porous structure **of the material**.

[0175] A conduit 126 is inserted into a longitudinal opening 269 of an elastically curved needle 101 abutting a plunger 109, as shown in FIG. 40. To minimize friction between the curved needle 101 and the rigid sleeve 220, the distal end of the lumen 268 of the sleeve 220 is angled or tapered with a bevel 102 or an indentation, conforming to the concave curvature of the needle 101, as shown in FIG. 41. A lubricant or coating to lower friction can also be applied on the surface of the elastically curved needle 101 and/or within the lumen 268 of the rigid sleeve 220.

The elastically curved needle 101 carrying the conduit 126 is resiliently straightened within a rigid sleeve 220, as shown in FIG. 42. The assembly is then inserted into a dilator 230, as indicated in FIG. 43, which leads into the disc 100. As the resiliently straightened needle 101 is deployed from the sleeve 220, the needle 101 carrying the conduit 126 resumes the curved configuration and punctures into the cartilaginous endplate 105 through the calcified layers 108, as shown in FIG. 44. The elastically curved needle 101 is then retrieved into the sleeve 220 while the plunger 109 is held stationary to deploy the conduit 126 at the calcified endplate 105, as shown in FIG. 45. **In summary, the conduit 126 has a first end and a second end, and the deployment device of the conduit 126 has two positions. In the first position, the conduit 126 is located at least partially within the needle 101, as shown in Figures 40-44, 46-47, 72, 78 and 83. In the second position, the conduit 126 is deployed or expelled from the needle 101, with the first end of the conduit in the intervertebral disc 100 and the second end in bodily circulation. The conduit 126 bridges, taps, links or connects between the intervertebral disc 100 and bodily circulation in the vertebral body 159 or muscle 193, as shown in Figures 45, 48, 79 and 84-87. As a result, transport of waste in the disc 100 and nutrients in bodily circulation is re-established to alleviate back pain and regenerate the avascular disc 100, as shown in Figures 51-53 and 85-87.**

Please replace paragraph [0203], with the following rewritten paragraph:

[0203] Since cellularity within the inner disc 100 is low, cell migration from the outer annulus or vertebral bodies 159 can be helpful in regenerating the degenerating disc 100. Cells can be transported along the convective flow within the conduit 126 into the nucleus pulposus 128. The channels or pores within the conduit 126**, made with porous material,** need to be sufficiently large, about 50 to 200 microns. For minerals, nutrients, lactic acid and gas exchange alone, the channels or pore size can be much smaller. Hence, the useful range of the channel or pore size of the conduit 126 is about 200 microns to 10 nanometers.

Please replace paragraph [0211], with the following rewritten paragraph:

[0211] The molecular weights of nutrients and waste are usually much smaller than the immuno-responsive cells, proteins and glycoproteins. The transport selectivity can be regulated or limited by the size of the pores or channels within the semi-permeable conduit 126**, made with porous material**. The upper molecular weight cut-off of the conduit 126 can be 3000 or lower to allow the passage of nutrients and waste but exclude the immuno-responsive cells, proteins, immunoglobulins and glycoproteins. The semi-permeable conduit 126 may also contain ionic or affinity surfaces to attract nutrients and waste. The surfaces of the semi-permeable conduit 126 can be selected or modified to repel, exclude or reject immuno-responsive components.